



## SURVEY OF PERSONNEL EXPOSURES AT SOME LARGE PHYSICS LABORATORIES

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The maximum permissible radiation exposures of radiation and non-radiation workers at an AEC or AEC contractor's site, as well as nearby off site populations, are described in the AEC Manual, Chapter 0524.

Generally speaking, the maximum permissible exposure is 5 rem/year for radiation workers.

However, it was considered it to be interesting to compare the maximum permissible exposures with the actual exposures received by personnel working at other large National Laboratories and high energy laboratories.

<u>BNL</u> 1967/1968	Total Dose Rem	No. of People	Avg. Dose/Man Rem
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AGS	477/505	848/891	.563/.567
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WHOLE LAB	687/658	2930/2798	.234/.235
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Source:	Fred Cowan		
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<u>LASL</u> 1967/68/69			
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WHOLE LAB	276/270/260	2500 (Avg.)	.107 (Avg.)
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Source:	Dean D. Meyer		
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<u>ANL</u> 1967/1968			
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ZGS	117/155	600/700	.195/.221
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WHOLE LAB	560/695	2500 (Avg.)	.224/.278
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Source:	Harry Howe		
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<u>SLAC</u> 1968/1969	Total Dose Rem	No. of People	Avg. Dose/Man Rem
	13/13	56/75	.232/.173

Source: Ted Jenkins

ORNL  
1967/1968

WHOLE LAB	~846/690*	6042/5754	.14 /.12
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Source: D. M. Davis

\* Obtained by multiplying no. of employees by the avg. dose/employee.

LRL  
1966

ACCELERATORS ONLY	100	-----	-----
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1969

( $\gamma + n$ )/Total	(79.4 + 24.3)/104	122	.852
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Source: H. W. Patterson

<u>PPA</u> 1968	105	557	.189
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Source: J. C. Faust

CEA  
1969

( $\gamma + n$ )/Total	(25.6 + 1.9)/27.5	81	.34
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Source: R. V. Johnson

For some of the laboratories, dose distributions were also collected. The doses are given in rem and the numbers in each ~~rem~~-range are the number of people who had absorbed that dose equivalent.

		0-1	1-2	2-3	3-4	4-5	5-6	6-7 Rem
LASL	'66	2353	44	7	5	2	-	1
LASL	'67	2434	43	21	9	-	-	1
LASL	'68	2499	36	15	7	1	-	-
ZGS	'67	560	20	8	-	-	-	-
ZGS	'68	600	84	12	2	-	-	-
		0-.1	.1-.3	.3-.5	.5-1.	1 or greater		
CEA	'69	330	49	17	12	3		
		0-.25	.26-.50	.51-.1	1.01-2.	2.01-3	3 or more	
PPA	'68	508	20	15	12	2	none	